

# APERTURE PLATE FOR OPTICAL LITHOGRAPHY SYSTEMS

## Abstract

A pupil aperture plate situated on a light path of an optical lithography system for providing specific illumination patterns is disclosed. The pupil aperture plate includes a plate body having thereon a pole aperture (defined by  $\sigma_{\text{inner}}$ ) located at the center of the plate. A set of four sector apertures, each of which has an opening angle  $\theta$ , radiating from a reference center point of the pole aperture. The distance of the sector aperture from the reference center point of the pole aperture is defined by  $\sigma_{\text{outer}}$ . The pupil aperture plate provides Bow-Pole and Quasar illumination patterns in combination with conventional and annular illuminations, respectively.